Intensifier Series

Camera

HT-INTD8 (2.8~12mm)
HT-INTD9 (5~50mm)
HT-INTD10 (9~22mm)

speco technologies®

Please read this manual throughly before operation and keep it handy for further reference.

CAUTION

RISK OF ELECTRONIC SHOCK

DO NOT OPEN

CAUTION:

TO REDUCE THE RISK OF ELECTRONIC SHOCK
DO NOT REMOVE COVER(OR BACK)
NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED
SERVICE PERSONNEL

The lightning flash with and arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated " dangerous voltage " within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is to alert the user to the presence of important operating and maintenance (serviceing) intructions in the literature accompanying the appliance.

INFORMATION - This equipment has been tested and found to comply with limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
Operation of this equipment in a residental are is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

WARNING - Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

CAUTION : To prevent electronic shock and risk of fire hazards:

- Do NOT use power sources other than that specified.
- Do NOT expose this appliance to rain or moisture.

This installation should be made by qualified service person and should conform to all local codes.

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PACKAGE CONTENTS

1 HT-INTD8 / HT-INTD9 / HT-INTD10 CAMERA

1 SUNSHIELD

4 MOUNTING SCREW

1 MOUNTING BASE

1 L - WRENCH

1 USER'S MANUAL

1 VIDEO TEST CABLE

1 POWER PIGTAIL

PRECAUTIONS

- TO PREVENT A FIRE OR ELECTRONICAL HAZARD PLEASE USE PROPER POWER CABLE
- INSTALLATION SHOULD BE PERFORMED BY QUALIFIED PERSONNEL
- PLEASE USE A UL APPROVED REGULATED 24 VOLT AC OR 12 VOLT DC POWER SUPPLY
- PLEASE USE APPROPRIATE LOW VOLTAGE POWER CABLE TO PREVENT FIRE OR ELECTRICAL SHOCK.
- PLEASE INSURE THAT YOUR INSTALLATION AREA CAN SUPPORT THE WEIGHT OF THE CAMERA
- PLEASE HANDLE THIS CAMERA CAREFULLY:
  - DON'T USE A STRONG OR ABRASIVE DETERGENT WHEN CLEANING THE CAMERA.
  - USE A SOFT TISSUE OR LENS CLOTH TO CLEAN THE FRONT GLASS.
  - DON'T EXPOSE THE CAMERA TO DIRECT SUN

OSD MENU

◈ Function

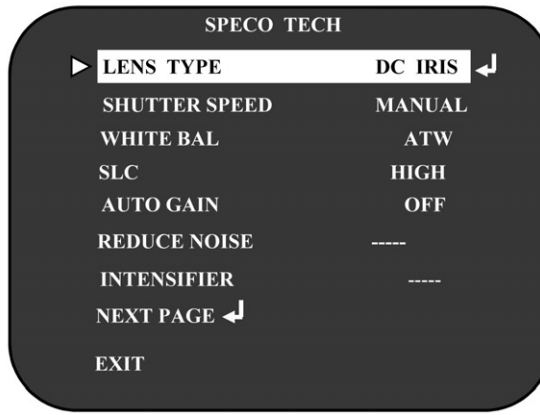
SET UP MENU

- LENS OPTION
  - ● DC ● MANUAL
- SHUTTER
  - ● OFF ● F/L ● MANUAL
- WHITE BALANCE
  - ● ATW ● AWC ● MANUAL
- SLC - (Speco Light Compensation)
  - ● OFF ● LOW ● MIDDLE ● HIGH
- AUTO GAIN
  - ● OFF ● LOW ● MIDDLE ● HIGH
- REDUCE NOISE
  - ● OFF ● LOW ● MIDDLE ● HIGH
- INTENSIFIER
  - ● AUTO ● OFF
- NEXT PAGE
  - ● CAMERA TITLE ● DAY/ NIGHT ● SYNC
  - ● MOTION ● PRIVACY ● REVERSE
  - ● DETAIL ● DEFAULT ● PAGE1
- EXIT

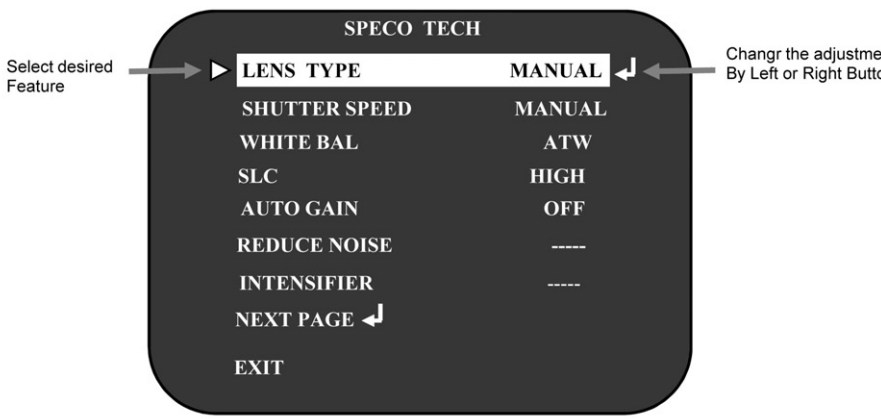
MENU SET UP

▶ Menu is adjusted by the OSD button on the camera

1. Press the SET button to access the SETUP mode.
   - SETUP menu should be displayed on the monitor screen.



2. Select the desired feature using the UP or DOWN buttons
   - Move the arrow indicator UP or Down to indicate onto desired feature by pressing the UP or Down button.



3. MENU SETUP change by using button
   - Available value or status should be displayed by pressing the Left or Right button.
   - Please press the button until desired features appears.

4. When adjustment is completed, move the arrow indicator to " EXIT " and press the "SET" button.

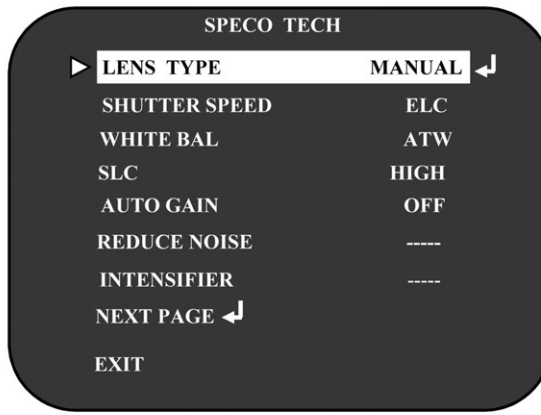
CAUTION

- Access to submenu by moving ↵ arrow to desired feature
- Access is not available to submenu on the mode of **" -----"**.

LENS SETUP

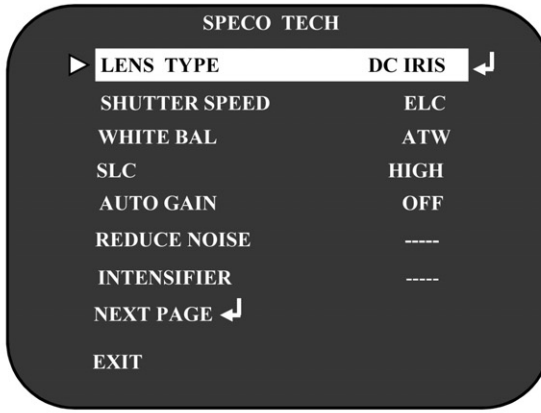
Select the lens by pressing the RIGHT button

1. Move the arrow indicator to " LENS " by UP or Down button on the SETUP menu.



→ **MANUAL : Manual Lens**

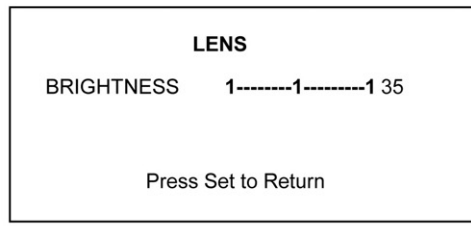
2. Select the desired lens type by LEFT or RIGHT button.



→ **DC / VIDEO :** DC Auto IRIS Lens

CAUTION

- You can control the brightness when DC is selected, Brightness control range will be 1~70.



→ **MANUAL :** Manual Lens

CAUTION

- Color mode is not available when AGC OFF

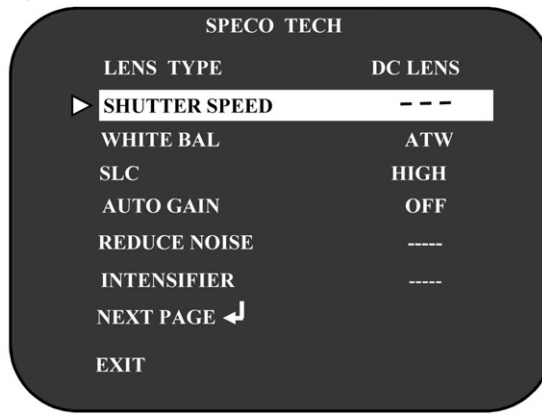
SHUTTER SPEED CONTROL

You can control brightness of screen by the shutter speed.

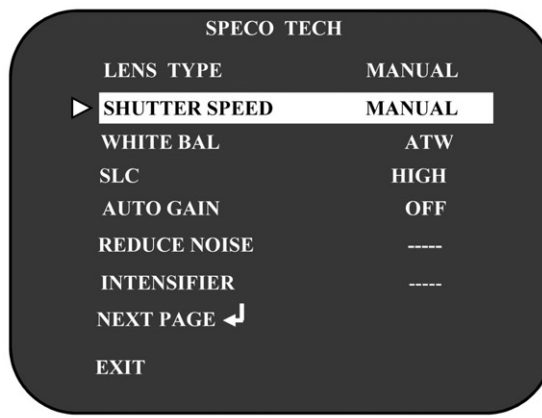
① Press the SET button to display the setup menu and move the arrow indicator to " SHUTTER " by the UP or DOWN button.

② Set " SHUTTER " to the desired mode by the LEFT or RIGHT button

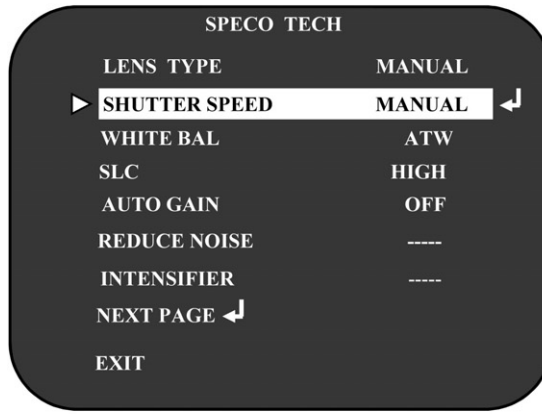
▶ OFF : Deactivation

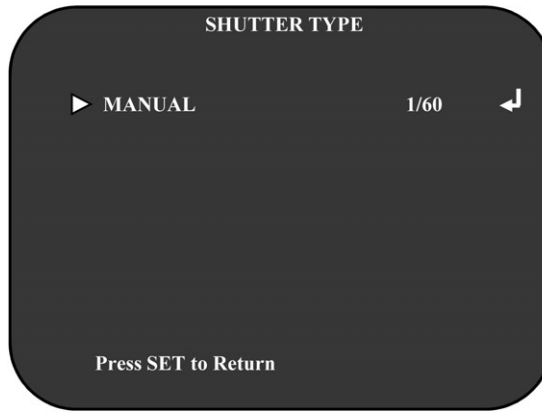


▶ FLK (1/100):Flicker mode

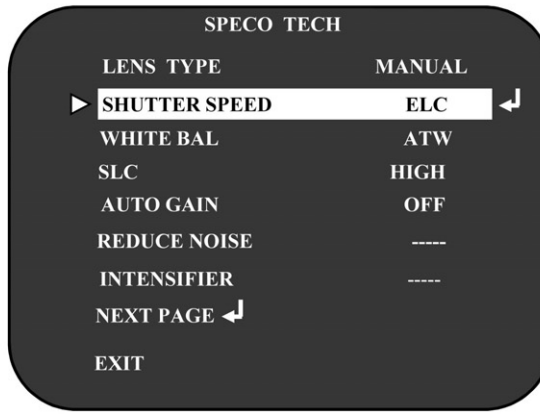


▶When setting the shutter speed manually,
You can select from " 1/60 " to " 1/200,000" sec





▶ You can control the BRIGHTNESS.



③ When completed, press " SET "

CAUTION

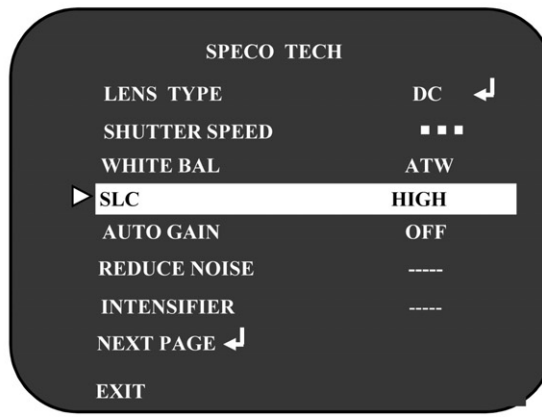
- Avoid pointing the camera directly at a fluorescent lamp.
- When the SHUTTER menu is set to FLK mode, the INTENSIFIER will not work.

3) SLC (Speco Light Compensation)
A built - in SR chip provides intelligent light level control to overcome severe Backlight conditions.

① Press the SET button to display the SETUP menu and move the arrow indicator to " SLC " by the UP or DOWN button.

② SET " SLC " to desired mode by the LEFT or RIGHT button.

▶ OFF ▶ LOW ▶ MIDDLE ▶ HIGH



BLC ON

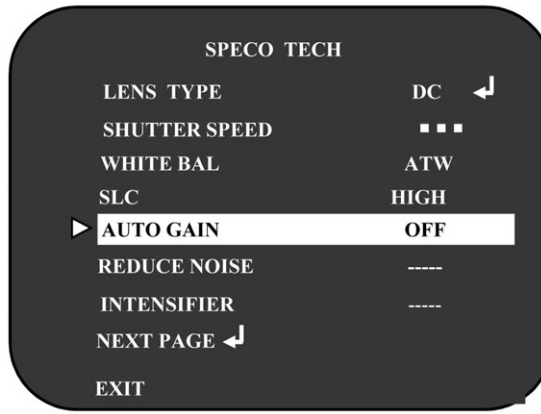
BLC OFF

4) AGC (Auto Gain Control)
AGC allows a brighter picture in low light conditions. Higher GAIN level will yield a brighter screen, but you might notice an increase in noise.

① Press the SET button to display the SETUP menu and move the arrow indicator to " SLC " by the UP or DOWN button.

② SET " SLC " to desired mode by the LEFT or RIGHT button.

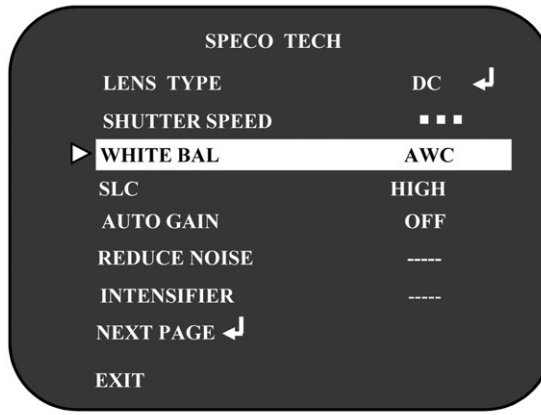
▶ OFF ▶ LOW ▶ MIDDLE ▶ HIGH



5) WHITE BALANCE

① Press the SET button to display the SETUP menu and move the arrow indicator to " WHITE BALANCE " by the UP or DOWN button.

② SET " WHITE BAL " to desired mode by the LEFT or RIGHT button.



► ATW(Auto Tracking White Balance)
: When color temperature is 2400 ~ 12000K, select this mode.
(ex. A fluorescent lamp, or outdoors)

► AWC(Auto White Balance Control)
: The white balance is automatically adjusted in a specific environment. In order to obtain the best result, press the set button while the camera focuses on the white paper. If the environment including the light source is changed, you have to adjust the white balance again.

► MANUAL : To fine adjust, select the manual mode.
You can increase the red or blue factor while monitoring the difference on the screen. Set the "MANUAL" mode and press the SET button. Increase or decrease the value for RED(R-Gain) and BLUE(B-Gain), watching the color of the picture and press the SET button when you obtain the best color.

CAUTION

- Proper White Balance may not be obtained under the following conditions. in these case, select the AWC mode.

  - When the scene contains mostly high color temperature object, such as bule sky or sunset.

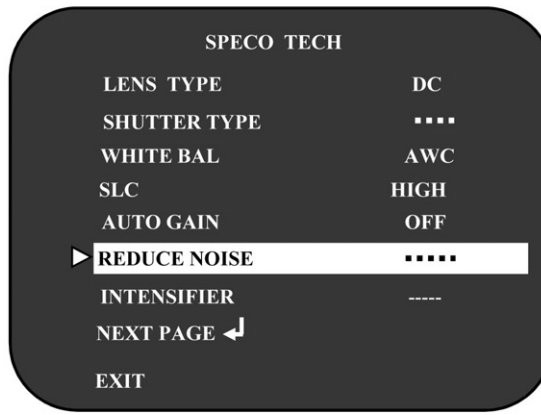
  - When the scene is dim.

  - If your camera faces a fluorescent lamp directly or is installed in an area with constantly changing illumination.

6) REDUCE NOISE (Digital Noise Redution)
DNR reduce the video noise on the screen.

① Press the SET button to display the SETUP menu and move the arrow indicator to " REDUCE NOISE " by the UP or DOWN button.

② SET " REDUCE NOISE " to desired mode by the LEFT or RIGHT button.



- OFF : Deactivation
- LOW : Low reduction of the noise
- MIDDLE : Middle reduction of the noise
- HIGH : High reduction of the noise

CAUTION

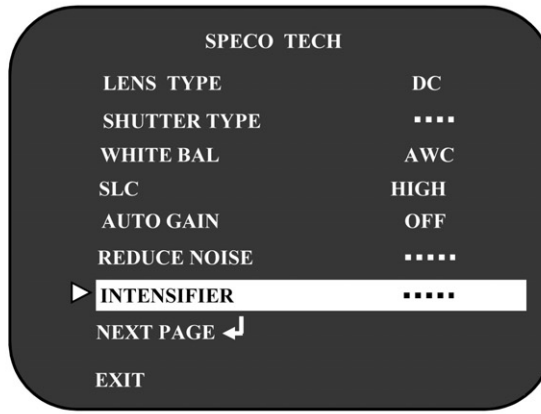
- If you change the "GAIN" menu from AGC-L to AGC-H, sensitivity is increased as well as noise on the screen.
- When the selected "GAIN" menu is OFF, REDUCE NOISE will not work.

7) INTENSIFIER

Allows you to get clear images with this function under night or low light conditions.

① Press the SET button to display the SETUP menu and move the arrow indicator to " INTENSIFIER " by the UP or DOWN button.

② SET " INTENSIFIER " to desired mode by the LEFT or RIGHT button.



► AUTO : When your camera is under night or low light conditions, select this mode. This mode allows the camera to switch into B/W in low light conditions.

► OFF : Deactivation

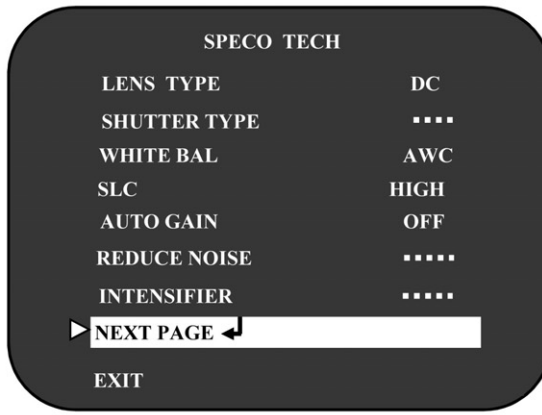
CAUTION

- If you press"AUTO" button in the intensifier mode, you can control the amount of intesification from 2X ~ X128.
- Increasing the amount of intensification results in brighter pictures under low light conditions, and may increase image lag.
- Increasing the amount of intensification may cause image noise which is to be expected as a normal condition.

8) NEXT PAGE

① Press the SET button to display the SETUP menu and move the arrow indicator to " NEXT PAGE " by the UP or DOWN button.

② SET " NEXT PAGE " to desired mode by the LEFT or RIGHT button.



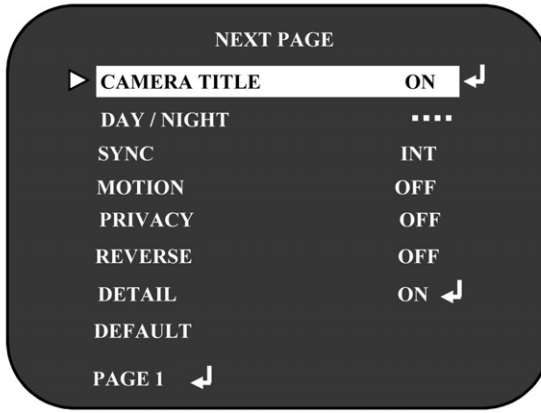
1) CAMERA TILTE

① Press the SET button to display the SETUP menu and move the arrow indicator to " CAMERA TITLE " by the UP or DOWN button.

② SET " ON " to desired mode by the LEFT or RIGHT button.

CAUTION

- If the CAMERA TITLE feature is set to " OFF", the name will not be displayed on the monitor.



③ Press SET button to access the SETUP mode.

④ You can enter up to 15 characters.

Ⓐ Move the cursor to character-enter location by using LEFT or RIGHT button.

Ⓑ Select the desired character by using UP or DOWN button.

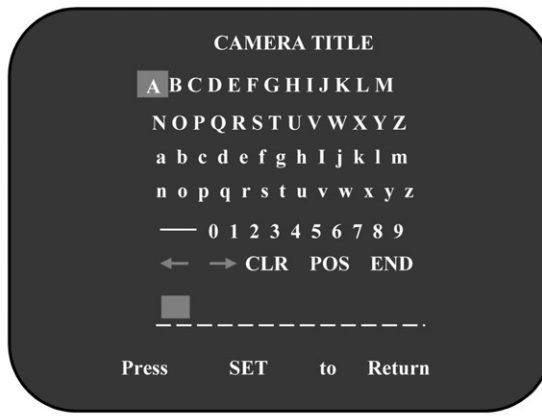
Ⓒ Press the SET button to confirm the blinking charactor. The first character is saved and the cursor in the bottom of the screen moves to the next position.

CAMERA TITLE

ⓓ Repeat above steps until you creat the full name you want.

ⓔ Select the position at which the CAMERA TITLE will be located on the screen.
- Move the cursor to "POS" and press SET button.
- Select the position by using the 4-directional buttons, then press the SET button to confirm the position.

ⓕ When completed, move the cursor to "END" and press SET button.



CAUTION

- If you make a mistake while entering a name, move the cursor to " CLR", press "SET" button.
  After erasing the character from right to left, correct the character again.

2) COLOR

① Press the SET button to display the SETUP menu and move the arrow indicator to " COLOR " by the UP or DOWN button.

② SET " COLOR " to desired mode by the LEFT or RIGHT button.

▶ COLOR : The camera will always display a color picture

▶ AUTO : The camera will switch Into B/W in the low light conditions.

CAUTION

- OSD key may not work for 3 seconds when COLOR /BW mode is changed

3) SYNC

① Press the SET button to display the SETUP menu and move the arrow indicator to " SYNC " by the UP or DOWN button.

② SET to desired mode by the LEFT or RIGHT button.

► INT : Internal synchronization

► L/L : If you choose "L/L", you can adjust the desired phase.
- Press the SET button.

- You can adjust the desired phase from 0 to 270.

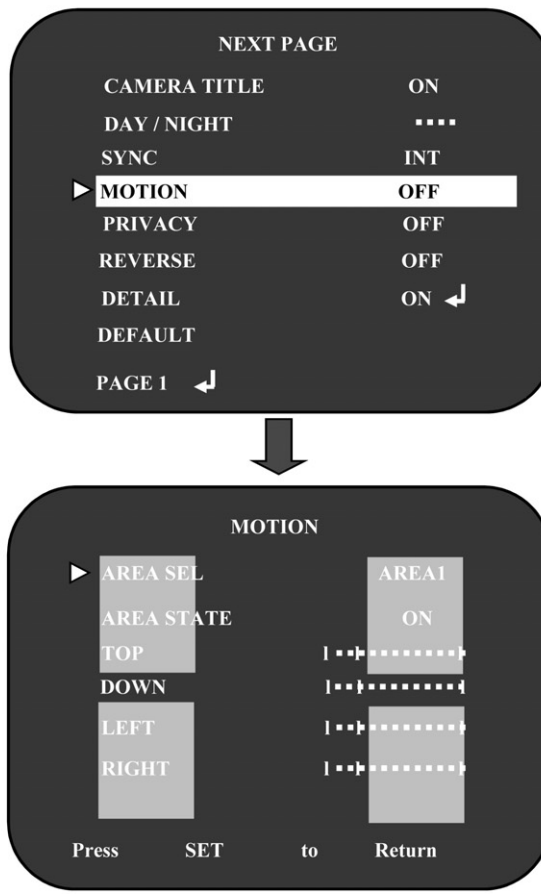
CAUTION

- When it used in AC power, L/L mode can be used.
- In 12V DC, the SYNC menu defaults to "INTERNAL".

4) Whenever your camera detects motion, The words "motion detected" will appear on the screen.

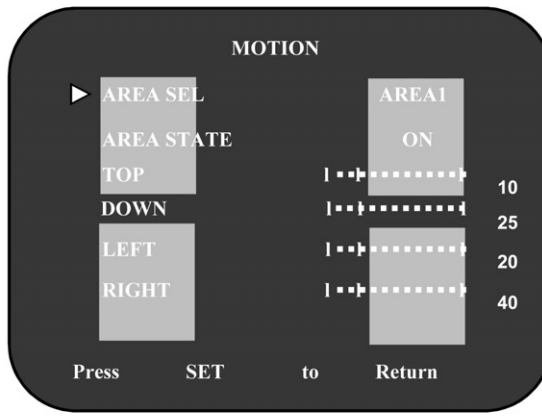
① Press the SET button to display the SETUP menu and move the arrow indicator to " MOTION " by the UP or DOWN button.

② SET " MOTION" to desired mode by the LEFT or RIGHT button.

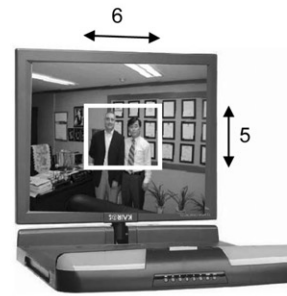


MOTION DETECTION

- OFF : Deactivation
- ON : Activated
  - Press the SET button.
  - Move the arrow indicator to " AREA SET " using UP and DOWN button. And then press the SET button.
  - Set the areas you want to observe.



Max.

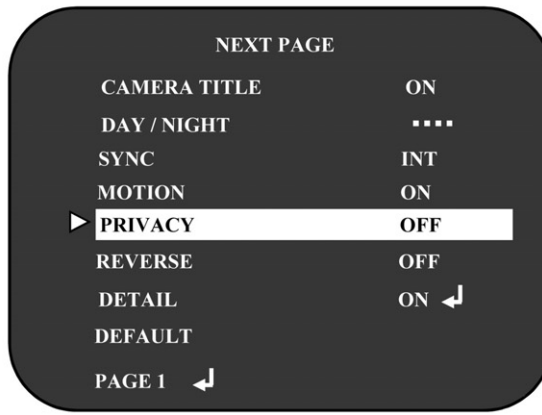


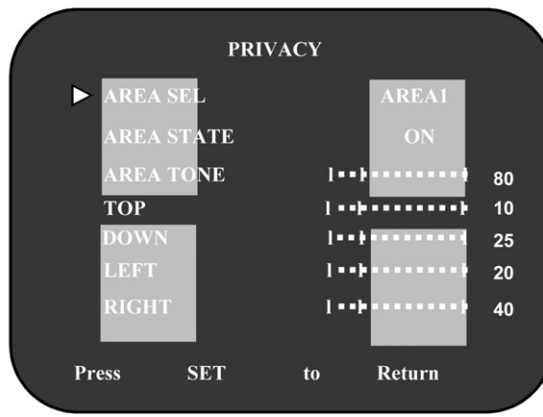
Min.

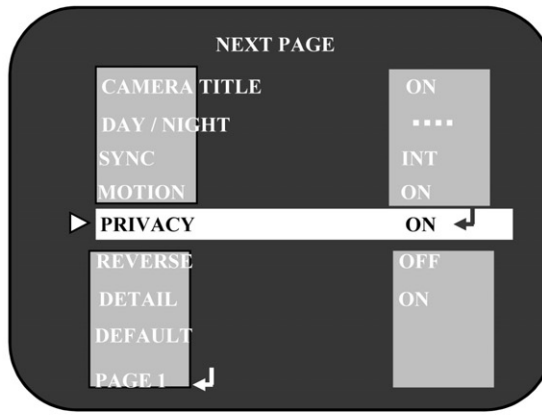
5) PRIVACY: To make an area that you want to be private.

① Press the SET button to display the SETUP menu and move the arrow indicator to " PRIVACY " by the UP or DOWN button.

② SET " PRIVACY " to desired mode by the LEFT or RIGHT button.







- OFF : Deactivation

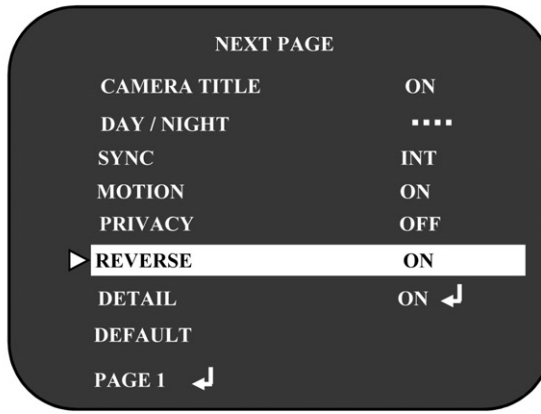
- ON : Activated
  - Press the SET button.

  - Move the arrow to the area you want to mask.
  - Set "ON" using LEFT or RIGHT button.
  - Press the SET button and then set the area's bounds as for MOTION detection.

6) REVERSE:

① Press the SET button to display the SETUP menu and move the arrow indicator to " REVERSE " by the UP or DOWN button.

② SET " REVERSE " to desired mode by the LEFT or RIGHT button.



► OFF : Deactivation

► ON : Reverse the Image RIGHT or LEFT such as mirror.

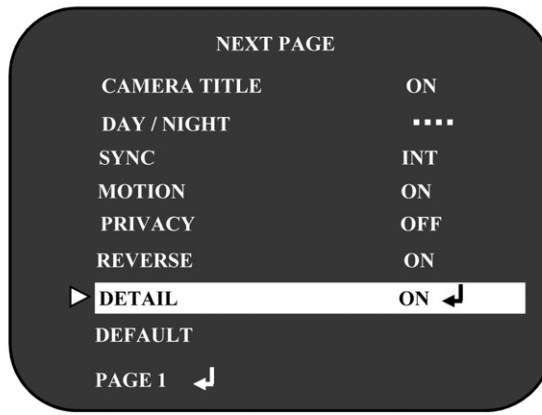
REVERSE ON

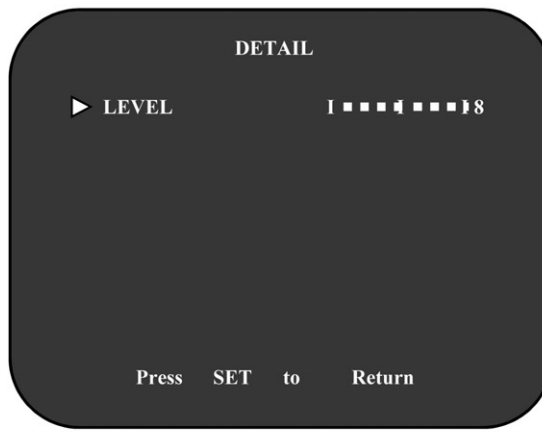
REVERSE OFF

7) DETAIL:

① Press the SET button to display the SETUP menu and move the arrow indicator to " DETAIL " by the UP or DOWN button.

② SET " DETAIL " to desired mode by the LEFT or RIGHT button.





DETAIL

- OFF : Deactivation
- ON : DETAIL control mode (level 0 ~ 31)

  When the level is up, the sharpness will increase.
  Control this level to get your best picture quality.
  If the level is to high, you can get an unnatural image.

RESET / RETURN

8) DEFAULT : Use to reset your camera to FACTORY DEFAULT setting.

9) PAGE 1: Save the setting of NEXT PAGE function and then move to SETUP menu.

TROUBLE SHOOTING

If you have trouble when operating your camera, please check the following

PROBLEM	SOLUTION
Nothing appears on the screen	● Check the power cable and line connection Between the camera and monitor. ● Check that you have properly connected the VIDEO cables
The image on the screen is dim.	● Is the camera lens stained with dirt? Clean the lens with a soft and clean cloth. ● Adjust the monitor as required. ● If the camera is exposed to very strong light, Change the camera position. ● Adjust the lens focus properly.
The image on the screen is dark.	● Adjust the contrast feature of the monitor ● If you have an interediate device, set the 75Ω / Hi-z properly.
The camera is not working properly and the surface of the camera is hot.	● Check that you have properly connected the Camera to an appropriate power source.
MOTION DETECTION function is not active.	● Have you set " MOTION DET" menu to off? ● Have you set " MD AREA " properly?

TROUBLE SHOOTING

If you have trouble when operating your camera, please check the following

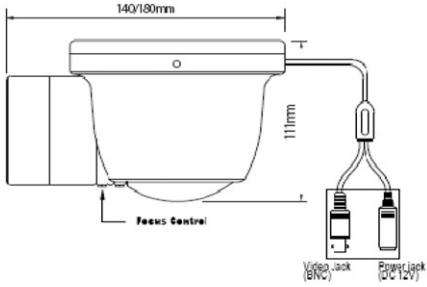
PROBLEM	SOLUTION
The color of the picture is not matched.	● Check that you have properly set the "WHITE- BAL" menu
The image on the screen flickers.	● Is the camera facing direct sunlight or fluorecent lighting? Change the camera position.
L/L mode isn't able to be selected.	● Have you connected the camera to DC power source? Connect it to AC power source.

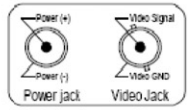
SPECIFICATION

LOW LIGHT INTENSIFIER / BUILT IN - SELECTABLE TO 128 X			
MODEL	**HT-INTD8**	**HT-INTD9**	**HT-INTD10**
Image Pick-Up Device	1/3" SONY SUPER HAD CCD - 410K		
TV System	NTSC		
Total Pixels	NTSC = 811(H) * 508(V)		
Effective Pixels	NTSC = 768(H) * 494(V)		
Scanning Frequency	NTSC = 15.734KHz(H) / 59.94Hz(V)		
Scanning System	2:1 Interlaced		
Synchronization	Internal / Line Lock		
Resolution	560 TV Lines		
Minimum Illumination	0.002 LUX Intensifier @ 128 X		
S / N Ratio	More than 50db (Weight On)		
White Balance	ATW / AWC / MANUAL (1800'K ~ 10,500'K)		
Video Output	Composite Video 1.0Vp - p75ohm / Test Connection		
Electronic Shutter Speed	NTSC = Auto / Manual (1/60 sec ~ 1/120,000 sec)		
OSD	Built - In - Controlled by Internal Buttons		
SLC (Speco Light Compensation)	Low - Middle - High - Off Selectable		
Auto Gain	Low - Middle - High - Off Selectable		
Reduce Noise	Low - Middle - High - Off Selectable		
Day & Night (Color)	On / Auto Selectable (Electrical)		
Sharpness	On / Off (Level Adjustable)		
Privacy	On / Off (4 Programmable Zone)		
Power Supply	Dual Voltage 12 V DC & 24V AC		
Power Comsumption	350mA		
Lens	DC Auto iris Varifocal Lens (2.8mm~12mm)-(HT-INDB8)		
	DC Auto iris Varifocal Lens (5mm ~ 50mm)-(HT-INTD9)		
	DC Auto iris Varifocal Lens (9mm ~ 22mm)-(HT-INTD10)		
Operation Temp.	- 14 TO + 120F., RH 95% Max.		
Storage Temp.	- 30 TO + 150F., RH 95% Max.		
Demensions	5.5"(W) * 4.4"(H) * 5.5"(D)-HT-INTD8,HT-INTD9		
	5.5"(W) * 4.4"(H) * 7"(D)-HT-INTD10		
Weight	3 Pounds	4 Pounds	3 Pounds

CAMERA SET UP

* Cable Connection

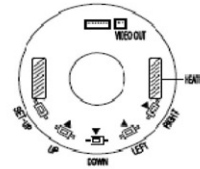




Cable Connection

* OSD Settings

Settings can be made using the 5 buttons on the front of the camera.



OSD CONTROL BOARD

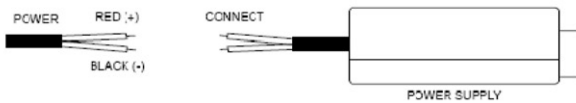
* Unscrew the front of the camera to gain access to these controls and the video test connector

CAMERA OPERATION (SET-UP ▲ UP ▼ DOWN ◀ LEFT ▶ RIGHT)

LENS (selection)	* MANUAL	* DC / VIDEO	
SHUTTER (condition and speed control)	* ESC	* MANUAL	* FLK
WHITE BALANCE control	* ATW	* AWC	* MANUAL
BLC (Backlight compensation)	* OFF * HIGH	* LOW	* MIDDLE
Auto Gain	* OFF * HIGH	* LOW	* MIDDLE
REDUCE NOISE (Digital noise reduction)	* OFF * HIGH	* LOW	* MIDDLE
INTENSIFIER	* OFF	* AUTO	
NEXT PAGE	* CAMERA ID * SYNC * PRIVACY * SHARPNESS * RETURN	* COLOR * MOTION DETECTION * MIRROR * RESET * AUTO	
EXIT			

1. When using 12 Volts DC(constant voltage 600mA)

2. When using 24 Volts AC(40 volt Amps)

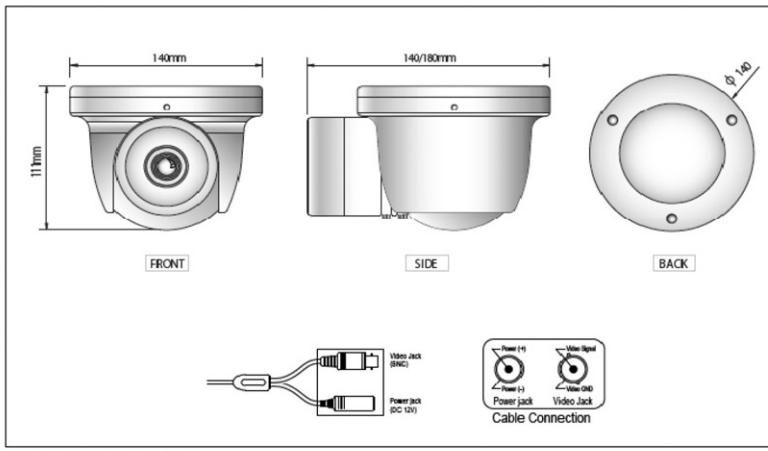


3. Connect Video Cable

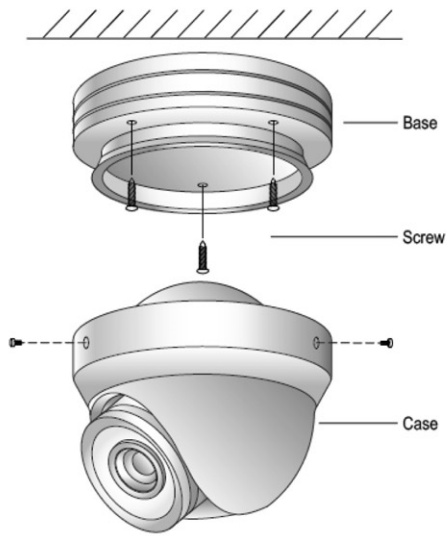
-Connect BNC cable to the BNC jack

HOW TO INSTALL

Dimension & Installation



*** How to Install**



*** Camera Adjustment**

① Connect Video & Power Line

② Please set the position where you want to connect the camera.

③ Loosen the locking screws and adjusting camera angle.

④ Combine each camera parts and lock & tight the each locking screws.

WARRANTY

speco technologies

LIMITED WARRANTY

VIDEO		AUDIO	
CAMERA	5 Years	In Door Speaker	15 Years
MONITOR	1 Year	Out Door / Weatherproof Speaker	2 Years
IR LEDs	90 Days	Amplifiers	5 Years
Time Labse VCR Drum Assembly & Heads		PA Horns, Micro Phones, Metal Detectors, Volume Controls	2 Years
DVRs	1 Year	Megaphones	90 Days
TN, TT,TS, PC Series	3 Years	Electrical Equipment, Not Listed Above & Balance of Line	90 Days

Warranty

We warranty all products to be free from any manufacturing or material defects. This warranty will not extend to any products which have been subjected to misuse, neglect, accident, or improper installation, used in violation of instructions furnished by us; or to units which have been repaired or altered outside of the factory. this limited warranty does not apply to broken cases, batteries, or other physically damaged parts. Upon request by the customer, the company will at the customer's expense repackage merchandise in new cartons, replace missing accessories, and return in resalable conditional. Unless requested, the company will replace and return all merchandise in the packaging in which it was received. This warranty is in lieu of all expressed warranties, expressed or implied, and of all obligations or liability on our part, And we neither assume nor authorize any representative or other person to assume for us any obligation or liability. In no event shall we be liable for incidental or consequential damages arising from the use of the product, or for any delay in the use of this product do to causes beyond our control. Some states do not allow limitations of how long an implied warranty lasts and/or do not allow the exclusion or limitation of consequential damages. The above limitations on implied warranty and consequential damages may not apply to you. This warranty gives you specific legal rights. You may have other rights which vary from state to state. See actual warranty statement included with product for limitations and exclusions where applicable. This limited warranty extends to products listed in the company's current price schedule.

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